



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,113	11/02/2001	Robert A. Boudreau	SP01-319	7953
22928	7590	10/16/2003	EXAMINER	
CORNING INCORPORATED			KANG, JULIANA K	
SP-T1-3-1			ART UNIT	
CORNING, NY 14831			PAPER NUMBER	

2874

DATE MAILED: 10/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

10/016,113

Applicant(s)

BOUDREAU ET AL.

Examiner

Juliana K. Kang

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 7-9 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 10-14, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/2/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Inventorship

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Drawings

2. New corrected drawings are required in this application because the drawings are informal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Objections

3. Claims 13 and 19 are objected to because of the following informalities:

Claim 13 recites the limitation "said optical detector" in line 3. There is an insufficient antecedent basis for this limitation. It appears that it should be "said optical device."

Claim 19 has a typographical error. Currently claim 19 is dependent on claim 19. It appears that it should be dependent on claim 18.

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-9 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberg (US 2001/0055460 A1) and further in view of Ouchi et al (US 2002/0025122 A1).

Regarding claims 7, 8, and 15, Steinberg discloses an optical device comprising a silicon wafer (101) (see paragraph 25) defining opposed first and second surfaces and having a transverse opening (102) through the wafer, said opening having at least one registration surface (see Fig. 1(d)) and optical fiber positioned in the opening to align the optical fiber. Since Steinberg moves the optical fiber within the opening for alignment, the optical fiber would come in contact with the registration surface. However, Steinberg does not teach optical device secured to the first surface of the wafer adjacent the

opening. Ouchi et al teach an optical interconnection module comprising an optical device placed on a wafer for coupling light between an optical fiber end and an optical device. Steinberg also teaches that the optical fibers are used to guide between a laser diode and modulator in an optical communication system. Thus, it would have been obvious to one with ordinary skill in the art to place an optical device on the wafer in Steinberg in order to make the optical device compact and to increase the coupling efficiency.

Regarding claims 9 and 16, Ouchi et al teach the fiber that is placed in a fiber holder (14, 15) having a groove. Ouchi et al's holder is secured on the second side of the wafer (see Fig. 10).

Regarding claims 17 and 18, Steinberg shows diamond shaped holes (see Fig. 1(d)).

6. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouchi et al (US 2002/0025122 A1).

Regarding claim 15, Ouchi et al disclose an optical module comprising a wafer (3) having first and second sides and an opening therethrough (4); a surface emitting laser (84), and an optical fiber placed in the opening to couple a light signal (see Fig. 10). However, Ouchi et al do not teach an optical receiver in the embodiment shown in Fig. 10. Ouchi et al do teach that the invention is capable of emitting or receiving light through a surface of the surface optical device (see page 2 paragraph 24). Thus, it would have been obvious to one with ordinary skill in the art to recognize the use of a light receiving device in Ouchi et al's embodiment shown in Fig. 10.

Regarding claim 16, Ouchi et al teach the fiber that is placed in a fiber holder (14, 15) having a groove. Ouchi et al's holder is secured on the second side of the wafer (see Fig. 10).

Allowable Subject Matter

7. Claims 1-6 are allowed.

There is no prior art that teaches or reasonably suggests the claimed optical receiver module with the specific elements and the specific combinations including a pair of silicon chips each having V-grooves to hold an optical fiber as set forth in claim 1.

8. Claims 10, 11-14, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 10, there is no prior art that teaches or reasonably suggests the claimed fiber holder having a pair of silicon chips each having V-groove as set forth in claim 10.

Regarding claims 11-14 and 19-20, there is no prior art of record that teaches or reasonably suggests the claimed opening having a side surface aligned with the [112] crystal orientation of the silicon material as recited in claims 11 and 19.

Conclusion

9. The prior art documents submitted by applicant have been considered and made of record (note the attached copy of forms PTO-1449).


10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Malone (U.S. Patent 6,626,585 B1), Sakurai et al (U.S. Patent 6,623,178 B1) and Bond et al (U.S. Patent 6,249,627 B1) teach coupling arrangement between an optical element and the end of an optical fiber.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juliana K. Kang whose telephone number is (703) 305-6259. The examiner can normally be reached on Mondays and Thursdays 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-3072.


Juliana Kang
September 30, 2003